

Amendment to the Claims:

The claims under examination in this application, including their current status and changes made in this paper, are respectfully presented.

Claims 1 through 20 are canceled.

21 (currently amended). A multistage differential amplifier, comprising:

(a) a first amplifier stage, said first amplifier stage including (i) a first differential pair of input transistors with loads coupled to a supply voltage through a first common-mode transistor and (ii) a first pair of emitter-follower output transistors coupled to said first differential pair of input transistors;

(b) a second amplifier stage, said second amplifier stage including (i) a second differential pair of input transistors with loads coupled to said supply voltage through a second common-mode transistors and (ii) a second pair of emitter-follower output transistors coupled to said second differential pair of input transistors, wherein said second differential pair of input transistors is coupled to said first pair of emitter-follower output transistors; and

(c) a voltage regulator coupled to control said first common-mode transistor, said voltage regulator including (i) a differential amplifier with a first input from a reference voltage, a second input from a temperature responsive unit, and an output to a third transistor connected between a supply voltage and said temperature responsive unit and (ii) a regulated voltage output locus between said third transistor and said temperature responsive unit, wherein said temperature responsive unit includes in series a first resistor, a second resistor, and a diode-connected transistor having a voltage-temperature response similar to that of each of the first pair of emitter-follower output transistors in the first amplifier stage.

22 (previously presented). The amplifier of claim 21, wherein (i) said first resistor is between said output locus and said diode-connected transistor, said diode-connected transistor is between said first resistor and said second resistor, and said second resistor is between said diode-connected transistor and ground, and (ii) said input from a temperature responsive unit connects between said diode-connected transistor and said second resistor.

23 (previously presented). The amplifier of claim 21, wherein (i) said diode-connected transistor is between said output locus and said first resistor, first resistor is between said diode-connected transistor and said second resistor, and said second resistor is between said first resistor and ground, and (ii) said input from a temperature responsive unit connects between said first resistor and said second resistor.

24 (currently amended). ~~The~~ A multistage differential amplifier of claim 21, comprising:  
(a) a first amplifier stage, said first amplifier stage including (i) a ~~wherein said~~ first differential pair of input transistors are NPN bipolar transistors with loads coupled to a supply voltage through a first common-mode PMOS transistor and (ii) a ~~said~~ first pair of emitter-follower output transistors are NPN bipolar transistors coupled to said first differential pair of input transistors;

(b) a second amplifier stage, said second amplifier stage including (i) a second differential pair of input transistors with loads coupled to said supply voltage through a second common-mode transistors and (ii) a second pair of emitter-follower output transistors coupled to said second differential pair of input transistors, wherein said second differential pair of input transistors is coupled to said first pair of emitter-follower output transistors; and

(c) a voltage regulator coupled to control said first common-mode transistor, said voltage regulator including (i) a differential amplifier with a first input from a reference voltage, a second input from a temperature responsive unit, and an output to a third transistor connected between a supply voltage and said temperature responsive unit and (ii) a regulated voltage output locus between said third transistor and said temperature responsive unit, wherein said temperature responsive unit includes in series a first resistor, a second resistor, and a ~~said first common-mode transistor is a PMOS transistor, and said diode-connected transistor is an NPN bipolar transistor.~~

25 (currently amended). The amplifier of claim ~~21~~ 24, wherein said voltage regulator is coupled to control said second common-mode transistor.

26 (previously presented). The amplifier of claim 25, further comprising:

(a) a third amplifier stage, said third amplifier stage including (i) a third differential pair of input transistors with loads coupled to said supply voltage through a third common-mode transistor and (ii) a third pair of emitter-follower output transistors coupled to said third differential pair of input transistors, wherein said third differential pair of input transistors is coupled to said second pair of emitter-follower output transistors.

27 (new). The amplifier of claim 21, wherein said voltage regulator is coupled to control said second common-mode transistor;

and wherein the diode-connected transistor has a voltage-temperature response similar to that of each of the second pair of emitter-follower output transistors in the second amplifier stage.

28 (new). The amplifier of claim 27, further comprising:

(a) a third amplifier stage, said third amplifier stage including (i) a third differential pair of input transistors with loads coupled to said supply voltage through a third common-mode transistor and (ii) a third pair of emitter-follower output transistors coupled to said third differential pair of input transistors, wherein said third differential pair of input transistors is coupled to said second pair of emitter-follower output transistors.